REMARKS

Claims 15-29 are pending (note, the Office Action Summary incorrectly states that claims 14-29 are pending). In response to the Appeal Brief filed 14 May 2010 the application was withdrawn from appeal and the following entirely new grounds of rejection are pending. Claims 15-18 are rejected under Section 102 as anticipated by Jonsson (U.S. 6,513,358). Claim 19 is rejected under Section 103 over Jonsson in view of Ginsburg (U.S. 4,771,622). Claims 20 - 25 are rejected over Jonsson and Ginsburg in further view of Hong (U.S. 6,427,507) and claims 26 - 29 are rejected under Section 103 over Jonsson in view of Ginsburg, in further view of Hong and in still further view of Barten (U.S. 6,779,373).

The following summary describes a repetitive cycle of rejections which have consistently failed to identify specific features of independent claim 15 and the claims which depend therefrom. This summary is helpful for understanding that the currently pending rejections suffer a similar deficiency.

In response to the amendment filed 13 August 2009, the rejections under Section 103, based in part on Muller in view of Gramckow, were all withdrawn. In the remarks accompanying that amendment the applicant successfully urged withdrawal of those rejections in part because the Muller reference did not disclose determining a desired flatness of the strip via a *material flow model ...*

Furthermore, claim 15 has further distinguished over the prior art by requiring

controlling a roll stand of the mill train via *a strip shape model* providing a *relationship between intrinsic flatness ip and visible flatness vp* and that uses the desired and actual flatness values as inputs to reduce the difference between the actual flatness and the desired flatness of the metal strip.

Thus the method of independent claim 15 requires both a material flow model *and* a strip shape model. The Gramckow reference did not provide the requisite strip shape model providing a relationship between intrinsic flatness ip and visible flatness vp. As noted at page 3 of the office action mailed 19 May 2009, the earlier rejection relied on the Gramckow reference (at col. 2, line 59 - col. 3, line 11) for using desired and actual flatness values as inputs to reduce a difference between actual and desired flatness, but *this is not the same as using a model to*

provide a relationship between intrinsic flatness and visible flatness. In this regard, the term "strip shape model" is defined in the specification (paragraphs 00041 - 00051). Neither of the prior art Muller and Gramckow references make use of a strip shape model.

With the prior rejections having been withdrawn, the appeal was based on new and final grounds of rejection which were deficient for the very same reasons applicant argued for withdrawal of the prior rejections. That is, independent claim 15 was rejected over Ginsberg (U.S. 4,771,622) in view of Gramckow (U.S. 6,697,699) wherein the new prior art combination had the same deficiencies already noted with regard to the Gramckow reference. Applicant also urged that the final rejection did not fully and clearly address every recitation in the claims. The rejection did not find in the prior art a *strip shape model providing a relationship between intrinsic flatness ip and visible flatness vp.* At best, the final rejection could only rely on the Gramckow reference (at col. 2, line 59 - col. 3, line 11) for using desired and actual flatness values as inputs to reduce a difference between actual and desired flatness. *This is not the same as using a model to provide a relationship between intrinsic flatness and visible flatness.* Nor did the final rejection identify a material flow model as required by claim 15.

The currently pending new and non-final rejections are based on similar errors which have lead to withdrawal of all prior rejections in this application. Specifically, the rejection of claim 15 as anticipated by Jonsson is addressed.

Claim 15 requires, among other features,

> determining a desired flatness of the strip via a material flow model;
> measuring an actual flatness of the metal strip near a discharge point of the mill train;
> translating the measured metal strip flatness into flatness values;
> controlling a roll stand of the mill train via a strip shape model providing a relationship between intrinsic flatness ip and visible flatness vp and that uses the desired and actual flatness values as inputs to reduce the difference between the actual flatness and the desired flatness of the metal strip.

The present rejection contends that the first feature of *"determining a desired flatness of the strip via a material flow model ..."* is met by a disclosure at col. 3, lines 5-8 and 31-34 of Jonsson, but that passage does not disclose this subject matter. The citation does refer to a control method, but says nothing with regard to using a material flow model to determine "a desired flatness of the strip."

Claim 15 also requires

controlling a roll stand of the mill train via a strip shape model providing a relationship between intrinsic flatness ip and visible flatness vp and that uses the desired and actual flatness values as inputs to reduce the difference between the actual flatness and the desired flatness of the metal strip.

The rejection attempts to read the feature of "controlling a roll stand of the mill train via a strip shape model" on the passages in Jonsson at col. 4, lines 13 - 17 and 26 - 29, but the passages concern finding differences between target and measured values suc as might be used in a feedback control loop instead of using a strip shape model.

The rejection also contends that Jonsson discloses a relationship between intrinsic flatness ip and visible flatness vp at col. 4, lines 21-24 but, at best, (per the Examiner's characterization) the passage might concern using OMFT (e.g., error being calculated by substracting PRFT from PRF, which is supplied to an algorithm to generate a new target value). Using desired and actual flatness values as inputs to reduce the difference between the actual flatness and the desired flatness of a metal strip, is not the same as using a **model** that provides a relationship between intrinsic flatness and visible flatness.

The prior art does not disclose using a strip shape model to control a roll stand of a mill train. Nor does the prior art disclose providing a relationship between intrinsic flatness ip and visible flatness vp and using the desired and actual flatness values as **inputs** to the strip shape model in order to reduce the difference between the actual flatness and the desired flatness of the metal strip. Instead, as best understood, the Jonsson reference only discloses finding a difference and applying an algorithm to modify a compensation factor which results in an optimized mill flatness target value.

Applicant respectfully reiterates that the term "strip shape model" is defined in the specification at pages 9 - 11 (i.e., see paragraphs 00041 - 00051). The prior art does not disclose or use a strip shape model.

For all of these reasons the rejection of independent claim 15 under Section 102 is in error and must be withdrawn or reversed. Recognition of this error renders it unnecessary to again argue for the allowability of the dependent claims, however, the deficiencies in the secondary Ginsburg reference have been noted in prior argument and are incorporated by reference herein.

Conclusion

For the foregoing reasons, it is respectfully submitted that the new rejections set forth in the outstanding Office Action are inapplicable to claim 15 and the dependent claims. Accordingly, Applicant respectfully requests that the Examiner remove the rejections and timely pass the application to allowance. Please grant any extensions of time required to enter this paper. The Commissioner is hereby authorized to charge any appropriate fees due in connection with this paper or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

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